Appendix B:

Glossary

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The following terms are used throughout this document, but are not necessarily defined when they occur. Many of the definitions provided below are borrowed primarily from the FEMA How-to guides (numbers 1, 2, and 7) and the American Planning Association publication, *Planning for Post-disaster Recovery and Reconstruction* (FEMA 2002, FEMA 2002a, FEMA 2001, Schwab 1998). However, some also are defined specifically from Commonwealth of Virginia statutes and regulations. Words that are in **Boldface** in the definitions also are defined in this glossary. It is hoped that this glossary will provide a common framework for the understanding and use of these terms in the course of hazard mitigation planning in the Commonwealth of Virginia.

0.2% Flood
Also known as the "500-year flood", this is a flood event having a 0.2 percent chance of being equaled or exceeded in any given year.

1% Flood
Also known as the "100-year flood" or "base flood", this is the flood having a 1 percent chance of being equaled or exceeded in any given year. This is the most common reference point statistically for referring to flood events because it is used for regulatory purposes in the **National Flood Insurance Program (NFIP)**.

100-Year Flood
See **1% Flood**.

500-year Flood
See **0.2% Flood**.

Acceleration
The rate of change of **Velocity** with respect to time.

Accretion
This type of sediment movement occurs when more sediment is deposited along a particular area (*e.g.*, a stream bank or shoreline) than is lost due to erosion.

Acquisition
The process by which local governments may gain possession of lands and other property in high hazard areas through the use of conservation easements, purchase of development rights, or outright purchase of the property.

Asset
Any human-made or natural feature that has value, including but not limited to people; buildings; infrastructure such as bridges, roads, and sewer and water systems; lifelines like electricity and communication resources; or environmental, cultural, or recreational features like parks, dunes, wetlands, or landmarks.

Asset Inventory
An assessment of community **Assets** that are located in each hazard areas. This assessment should include information about the asset locations, types, function, value, contents (if applicable), and the population of the jurisdiction that may be affected by each hazard event. An estimation of the effect on the jurisdiction of the loss of or damage to this asset also should be considered.

Average Daily Operating Budget
The average cost to operate a facility for one day (including wages, overhead, inventory, etc.)

Base Flood
See **1% Flood**.

Base Flood Elevation (BFE)
The elevation of the **Base Flood** in relation to a specified datum, such as the National Geodetic Vertical Datum of 1929. The base flood elevation is used as the standard for the National Flood Insurance Program.

Base Map
A map used as a bottom "layer" for risk assessment and hazard analysis. This map should be **Planimetric** and should be as complete, accurate, and current as possible. Other than distinguishable buildings, roads, rivers, coastlines, place names, and a north arrow, the base map should be as uncluttered as possible.

Bedrock
The solid rock that underlies loose material such as soil, sand, clay, or gravel.

Building
Any structure that is walled and roofed, including a storage tank for gas or liquid, which is principally above ground and permanently affixed to a site. This also includes manufactured homes on a permanent foundation on which the wheels and axles carry no weight.

Channelization
The practice of hardening (and more often than not, straightening) the banks of a river or stream to ensure that its path remains predictable and controlled.

City
According to Title 15.2, Section 102 of the COV, a "City" is any independent incorporated community that became a city as provided by law before noon on the first day of July, nineteen hundred seventy-one, or that has within defined boundaries a population of 5,000 or more and that has become a city as provided by law.

Coastal High Hazard Area
As defined under the NFIP, this is an area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high-velocity wave action from storms or seismic sources.

Coastal Zone
The area along the shore where the ocean meets the land as the surface of the land rises above the ocean. This land/water interface includes barrier islands, estuaries, beaches, coastal wetlands, and land areas having direct drainage to the ocean.

Community

As defined for the purposes of the NFIP, a community is any state, area, or political jurisdiction or any Native American tribe, authorized tribal organization, Alaska native village, or authorized native organization that has the authority to adopt and enforce floodplain management ordinances for the area under its jurisdiction. In the Commonwealth of Virginia, the recognized government subdivisions "include authority, county, district, and municipality" (COV §13.1-603). The Constitution of Virginia (Article VII, §1 "Definitions") recognizes **Counties, Cities, Towns, and Regional governments**. See also **Local Government**.

Community Rating System (CRS)

A voluntary system under the NFIP in which communities undertake planning and regulatory activities beyond NFIP minimum requirements tin order to obtain credits that earn premium reductions for flood insurance for their residents and property owners. These activities are delineated in the CRS guidelines but include four general categories: public information; mapping and regulatory activities; flood damage reduction; and flood preparedness. The premium reductions come in a series of 5 percent steps based on points earned under the system.

Comprehensive Emergency Management (CEM)

A framework for planning, organizing, and managing emergency protection efforts. There are four recognized phases in the all-hazards approach – mitigation, preparedness, response, and recovery.

Consequences

The damages (full or partial), injuries, and losses of life, property, environment, and business that can be quantified by some unit of measure, often in economic terms.

Constriction

In a **Floodplain**, regrading or filling within or on the edge of a floodplain that obstructs flood flows, backing up floodwaters onto upstream and adjacent properties. Constrictions also increase the velocity of floodwater downstream of the constriction, and reduce the floodplain's ability to store excess water, sending more water downstream and causing floods to rise to higher levels.

Content Loss

Part of the Loss Estimation process, this value represents the total dollar value loss to the contents of a structure as a result of damage from a hazard event. This value (for each affected structure) is equal to the **Content Value** of the structure multiplied by the percent damage experienced by those contents from the hazard event.

Content Value

As part of an asset inventory, this is an estimate of the costs associated with loss of a building's inventory. This value is usually estimated as a percentage of a facility's **Replacement Value**, depending on the **Occupancy Class** of the facility.

Contour

A line of equal ground elevation on a **Topographic** map.

County

As per Title 15.2 Section 102 of the COV, a "County" is any existing county or such unit hereafter created.

Critical Facility

Any facility or building that (1) is essential to maintain emergency response actions, (2) provides lifeline services (*e.g.*, shelters, potable water supplies, health facilities), (3) is essential to maintain public safety (*e.g.*, police and fire stations), (4) may cause devastating financial or safety conditions if shut down for more than one week, (5) houses irreplaceable items, records, equipment, or research, (6) houses a special population that requires particular social services on site not needed by the general public (*e.g.*, prisons, nursing home, and advanced care facilities), or (7) has a special historic or other character.

Critical Fire Weather

A set of weather conditions, usually a combination of wind and low relative humidity, whose effects on fire behavior make fire control difficult and threaten firefighter safety.

Debris

The scattered contents and structural material of homes, businesses, and other structures broken or destroyed in a hazard event. Debris caused by a wind or water hazard events can cause additional damage to other community assets.

Depth of Flooding

The difference between the **Base Flood Elevation** and the **Lowest Floor Elevation**.

Design Wind Speed

The wind velocity for which structures in a specific **Design Wind Speed Zone** must be constructed to withstand. The American Society of Civil Engineers (ASCE) determines the Design Wind Speeds and Zones.

Design Wind Speed Zone

A zone throughout which the **Design Wind Speed**, as determined by the ASCE, is consistent. There are four zones in the United States: Zone I (winds up to 130 mph); Zone II (winds up to 160 mph); Zone III (winds up to 200 mph); and Zone IV (winds up to 250 mph).

Digital Flood Insurance Rate Map (DFIRM)

A **Flood Insurance Rate Map** that has been updated and produced in digital format for use in GIS and internet applications.

Digital Orthophoto Quarter Quadrangle (DOQQ)

A computer-generated image of an aerial photograph in which displacements caused by camera orientation and terrain have been removed. These products combine the image characteristics of a photograph with the geometric qualities of a map and can be used in numerous GIS applications either alone or in combination with other digital data.

Disaster

A dangerous event that causes significant human and economic loss and demands a crisis response beyond the scope of any single agency or service such as the fire department or police.

Disaster Mitigation Act of 2000 (DMA2K)

The DMA2K (PL 106-390), signed into law October 10, 2000, amends Section 409 of the **Stafford Act**, reinforces the importance of mitigation planning, and emphasizes planning for disasters before they occur. It establishes a pre-disaster mitigation program and provides new requirements for the **Hazard Mitigation Grant Program** (HMGP). A complete copy of this Act is provided in the appendix to this plan.

Displacement Cost

The overall dollar amount it would cost for the function of a facility, business, or service to be relocated to another structure because of a hazard event.

Displacement Cost per Day
Part of the Loss Estimation process, this is the average cost per day for a facility to be relocated to a temporary facility as a result of a hazard event. This value can be estimated by dividing the **Displacement Cost** by the **Displacement Time**.

Displacement Time
The average time (in days) that a building's occupants typically must operate from a temporary location while repairs are made to the original building due to damages resulting from a hazard event.

Duration
The length of time a hazard event last.

Earthflow
A type of **Landslide** generally characterized as a combination of a **Slump** and a **Mudflow**.

Earthquake
A sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of earth's tectonic plates. See also **Ground Motion**.

Emergency
As defined in the Stafford Act, "any occasion or instance for which, the determination of the president, federal assistance is needed to supplement state and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States."

Emergency Management
Organized analysis, planning, decision-making, and assignment of available resources to mitigate, prepare for, respond to, and recover from the effects of all hazards.

Emergency Response Plan
Also known as an emergency operations plan, this is a document that contains information on the actions that may be taken by a governmental jurisdiction to protect people and property before, during, and after a disaster.

Erosion
The wearing away of the land surface by detachment and movement of soil and rock fragments, during a flood or storm or over a period of years, through the action of wind, water, or other geologic processes.

Erosion Hazard Area
The area anticipated to be lost to shoreline retreat over a given period of time. The projected inland extent of the area is measured by multiplying the average annual long-term recession rate by the number of years required.

Exposure
The number, types, qualities, and monetary values of various types of property or infrastructure and life that may be subject to an undesirable or injurious hazard event.

Extent
The size of an area affected by a hazard or hazard event.

Extratropical Cyclone
Cyclonic storm events like Nor'easters and severe winter low-pressure systems. Both the West and East coasts can experience these non-tropical storms that produce gale-force winds and precipitation in the form of heavy rain or snow. Typically called Nor'easters on the East Coast because of the direction of the storm winds, these storms can last for several days and be very large – 1,000 mile-wide storms are not uncommon.

Fault
A fracture in the continuity of a rock formation caused by a shifting or dislodging of the earth's crust, in which adjacent surfaces are differentially displaced parallel to the plane of fracture.

Fire Hazard Severity
The potential for the occurrence of a **Wildfire** due to a combination of slope, fuel availability and type, and prevalence of **Critical Fire Weather** in an area.

Fire Hazard Severity Table
This table correlates **Critical Fire Weather** prevalence, slope, and fuel classification of an area to estimate an area's degree of fire hazard.

Fire Potential Index (FPI)
Developed by the USGS and USFS, this index is used to assess and map fire hazard potential over broad areas. Using the geographic information from this index, national policy makers and on-the-ground fire managers have established priorities for prevention activities in the defined area to reduce the risk of managed and wildfire ignition and spread. Prediction of fire hazard shortens the time between fire ignition and initial attack by enabling fire managers to pre-allocate and stage suppression forces to high fire risk areas.

Flash Flood
A flood event occurring with little or no warning where water levels rise at an extremely fast rate.

Flood
A general and temporary condition of partial or complete inundation of normally dry land areas from (1) the overflow of inland or tidal waters, (2) the unusual and rapid accumulation or runoff of surface waters from any source, or (3) mudflows or the sudden collapse of shoreline land.

Flood Depth
The height of the flood water surface above the ground surface.

Flood Elevation
The elevation of the water surface above an established datum (*e.g.*, the National Geodetic Vertical Datum of 1929; the North American Vertical Datum of 1988; or Mean Sea Level).

Flood Hazard Area
An area as defined on a **Flood Insurance Rate Map** having the possibility to be inundated by a flood of a given magnitude.

Flood Insurance Rate Map (FIRM)
As defined under the NFIP, this is an official map of a community on which the administrator of the Flood Insurance Administration has delineated both the **Special Flood Hazard Areas** and the risk premium zones applicable to that community.

Flood Insurance Study (FIS)
A study that provides an examination, evaluation, and determination of flood hazards and, if appropriate, corresponding water surface elevations in a community or communities.

Flood Zone
A geographical area shown on a FIRM that reflects the severity or type of flooding in the area.

Floodplain (or flood-prone area)
As defined under the NFIP, any land area susceptible to being inundated by water from any source.

Floodplain Management
As defined under the NFIP, the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and floodplain management regulations.

Floodway
See **Regulatory Floodway**.

Frequency
The measure of how often on average a hazard event of a particular magnitude is expected to occur within a particular time frame. Statistically, a hazard with a 100-year recurrence interval is expected to occur once every 100 years on average, and would have a 1 percent chance – its **Probability** – of happening in any given year (*e.g.*, a 1% flood).

Fuel
Combustible plant material, both living and dead, that is capable of burning in a wildland situation. Also, any other flammable material in the built environment that feeds a wildfire.

Fujita Scale of Tornado Intensity
This scale rates tornadoes with numeric values from F0 to F5 based on tornado wind speed and damage sustained. An F0 indicates wind speeds less than 72 miles per hour and minimal damage such as broken tree limbs or signs, while an F5 indicates wind speeds in excess of 260 miles per hour and severe damage sustained.

Function Loss
Part of the Loss Estimation process, this value represents the functional dollar value loss of a structure/facility as a result of damage from the hazard event. This value (for each affected structure) is equal to the **Average Daily Operating Budget** of the structure multiplied by the **Functional Downtime** plus the **Displacement Cost per Day** multiplied by the **Displacement Time**.

Function Value
An estimate during an asset inventory that represents the value of a building's use or function that would be lost if it were damaged or closed.

Functional Downtime
The average time (in days) during which a function (business or service) is unable to provide its services due to a hazard event.

Geographic Area Impacted
See **Extent**.

Geographic Information System (GIS)
A computer software application that relates physical features on the earth to a database of attributes (descriptions, characteristics) about those physical features to be used for mapping and analysis.

Ground Failure
Permanent deformation of the soil, including faulting, consolidation, liquefaction, or landslides. Ground failure can cause extensive damage to buildings and lifelines, and development in areas prone to ground failure should be avoided.

Ground Motion
Movement of the ground resulting from earthquake-generated waves in the earth. Ground motion normally includes horizontal and vertical components, although the horizontal movement is more severe and causes the greatest damage. Building codes normally address horizontal motion, as vertical motion usually does not exceed gravity design.

Hazard
Generally, any source of potential danger or adverse condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, damage to the environment, interruption of business, or other types of harm or loss. Hazards may be divided into two broad categories, depending on the source of the event. See also **Natural Hazards** and **Human-caused Hazards.**

Hazard Event
A specific occurrence of a particular type of hazard.

Hazard Identification
See **Hazard Profile**.

Hazard Mitigation
The proactive, preventive planning process of identifying and performing sustained actions to reduce or eliminate the long-term risks to human life and property from hazards and their effects. Note that this emphasis on long-term risk distinguishes mitigation from actions geared primarily to emergency preparedness and short-term recovery.

Hazard Mitigation Grant Program (HMGP)
A grant program authorized under Section 404 of the **Stafford Act**, 42 USC 5170c and implemented at 44 CFR Part 206, Subpart N, that authorizes funding for certain mitigation measures identified through the evaluation of natural hazards conducted under Section 322 of the Stafford Act 42 USC 5165.

Hazard Profile
The process by which the hazards that affect a particular locality or region are identified, described, and defined, including the physical characteristics, magnitude and severity, probability and frequency, causative factors, and extent.

HAZUS
"Hazards U.S." This is a standardized, nationally applicable hazard loss estimation methodology that uses PC-based GIS software. Although originally designed to be used to estimate earthquake losses, recent updates to the software now include both flood and wind event modules (now known as HAZUS-MH or HAZUS-Multi-hazard). See the FEMA website at http://www.fema.gov/hazus/ for more information and a free download.

Human-caused Hazards

Hazard events that originate from human activity. These types of events may be further defined as either technological hazards or terrorism. **Technological hazards** refer to incidents that may arise from human activities such as the manufacture, transportation, storage, and use of hazardous materials. For the purposes of this sub-definition, it is assumed that technological emergencies are accidental and that their consequences are unintended. **Terrorism** refers to intentional, criminal, malicious acts, specifically those related to the use of weapons of mass destruction (WMD) (including biological, chemical, nuclear, and radiological weapons); arson, incendiary, explosive, and armed attacks; industrial sabotage and intentional hazardous materials releases; and "cyber-terrorism".

Hurricane

An intense tropical cyclone, formed in the atmosphere over warm ocean areas, in which wind speeds reach 74 miles per hour or more and blow in a large spiral around a relatively calm center or "eye." Hurricanes develop over the North Atlantic Ocean, northeast Pacific Ocean, or the South Pacific Ocean east of 160° East longitude. Hurricane circulation is counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.

Hydrology

The study of water and its properties. A flood discharge model is developed by a hydrologic study.

Infrastructure

Refers to the public services of a community that have a direct impact on the quality of life in that community. These services include communication technology, lifeline systems, and transportation systems. See also **Lifeline Systems**.

Inland Flooding

Flooding that occurs landward of a shoreline as a result of a coastal storm moving across the land bringing torrential rains and backwater flooding from the ocean. These in turn cause rivers and streams in these inland areas to overflow. Severe coastal storms have been known to cause floods in inland areas whose **flood depths** may exceed that expected from a **0.2% flood**.

Integrated Emergency Management System (IEMS)

The application of the **Comprehensive Emergency Management** concept. This program integrates or incorporates all available resources for the full range of hazards and the full range of functions related to the four phases of emergency management (mitigation, preparedness, response, recovery).

Intensity

A measure of the strength of a hazard event at a particular place.

Inundate / Inundation

To cover or be covered by water, especially from a flood as a result of a severe rainstorm, hurricane, or tsunami.

Landslide

Downward movement of a slope and materials under the force of gravity. There are at least four types of landslides, depending on the content and flow characteristics: **Mudslides**; **Rock Slides**; **Slumps**; and **Earthflows**.

Landslide Hazard Map
These maps show the real extent of a landslide threat, combining data about locations where landslides have occurred in the past, where they are likely to occur now, and where they could occur in the future. When compiled accurately, these maps may be used to predict the relative degree of hazard in a landslide area.

Landslide Inventory
The process by which areas that appear to have failed due to landslides, including debris flows and cut-and-fill failures, are identified.

Landslide Susceptibility Map
These maps show areas that have the potential for landslides by correlating some of the principal factors that contribute to landslides (*i.e.*, steep slopes, geologic units that lose strength when saturated, poorly drained rock or soil, slope angle, and soil drainage characteristics) with the past distribution of landslides in those areas.

Lateral Spread
A type of **Liquefaction**, this develops on gentle slopes and entails the sidelong (downhill) movement of large masses of soil as the underlying layer liquefies.

Level of Acceptable Risk
The amount or degree of potential exposure to loss or injury from a hazard event that a jurisdiction has agreed to comply with when planning the future development of that jurisdiction.

Lifeline Systems
Public works and utilities, such as electrical power, gas and liquid fuels, telecommunications, transportation, and water and sewer systems.

Liquefaction
The temporary loss of shear strength in a water-saturated, cohesion-less soil deposit, or temporary transformation of unconsolidated materials into a fluid mass. Liquefaction causes two types of ground failure: **Lateral Spreads** and **Loss of Bearing Strength**.

Local Government
As defined by the **Disaster Mitigation Act of 2000**, this is any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska Native village or organization; and any rural community, unincorporated town or village, or other public entity. In Virginia, by definition from Title 15.2 Section 102 of the COV a “Local Government” is any county, city, or town as the context may require. See also **Community**.

Locality
See **Local Government**.

Loss of Bearing Strength
A type of **Liquefaction**, this results when the soil supporting a structure liquefies, potentially causing the structure to tip and topple.

Lowest Floor Elevation
Under the NFIP, this is the elevation of the lowest floor of the lowest enclosed area of a structure (including a basement). This information is available from an elevation certificate (if the building was constructed after a floodplain management ordinance was in force) or from a recorded subdivision plat, site survey, or building permit.

Magnitude
A measure of the strength of a hazard event. The magnitude (also referred to as "severity") of a given hazard event is usually determined using technical measures specific to the hazard.

Major Disaster
As defined by the Stafford Act, "any natural catastrophe…, or, regardless of cause, any fire, flood, or explosion in any part of the United States, which in the determination of the president causes damage of sufficient severity and magnitude to warrant major disaster assistance under this act to supplement the efforts and available resources of states, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby."

Managing State
A State to which FEMA has delegated the authority to administer and manage the HMGP under the criteria established by FEMA pursuant to 42 USC 5170c(c). FEMA also may delegate authority to tribal governments to administer and manage the HMGP as a Managing State.

Mitigate
To cause something to become less harsh, hostile, or destructive; to make less severe or painful.

Mitigation
See **Hazard Mitigation**.

Mitigation Measures / Mitigation Strategies
Those actions proposed and/or undertaken by a jurisdiction to minimize future vulnerability to one or more hazards.

Mitigation Planning
A systematic evaluation of the nature and extent of vulnerability to the effects of hazards typically present in a jurisdiction. This process also includes a description of **Mitigation Measures**.

Modified Mercalli Scale
A subjective measure of the strength (**Intensity**) of the shaking experienced in an seismic event. This scale represents the local effect or damage caused by an earthquake. Also known as **Modified Mercalli Intensity**. See also **Peak Ground Acceleration** and **Richter Magnitude Scale**.

Mudslide / Mudflow
Also known as debris flows, this type of **Landslide** is characterized by flows of well-mixed mass of rock, earth, and water that behaves like a fluid and moves down slopes with consistency similar to that of newly mixed concrete.

Municipality
As defined in Title 15.2 Section 102 of the COV this term shall be construed to relate only to **Cities** and **Towns**.

National Flood Insurance Program (NFIP)
A Federal program created by Congress in 1968 that makes flood insurance available in communities that enact the minimum floodplain management regulations defined in 44 CFR §60.3.

National Weather Service (NWS)
A division of the National Oceanographic and Atmospheric Administration (NOAA), the NWS prepares and issues flood, severe weather, and coastal storm warnings and can provide technical assistance to Federal and state entities in preparing weather and flood warning plans.

Natural Hazards
Those events caused by one or more natural occurrences, including hurricanes, tornados, storms, floods, tidal waves, tsunamis, high or wind-driven waters, volcanic eruptions, earthquakes, snowstorms, wildfires, droughts, landslides, and mudslides. While the risks presented by natural hazards may be increased or decreased as a result of human activity, they are not inherently human-induced.

Nor'easter
An **Extratropical Cyclone** producing gale-force winds and precipitation in the form of heavy snow or rain.

Obstruction
In a **Floodplain**, obstructions are bridges, culverts, and other obstacles that can block flood flow and trap debris, causing increased flooding upstream and increased flood velocity downstream.

Occupancy Class
As part of an asset inventory, this is a description of a facility's general use or function. Based on a facility's Occupancy Class, one also may estimate the **Content Value** and **Replacement Value** using tables developed from regional and national averages.

Outflow
In a coastal storm event, this is the flow of flood waters from inundated areas back to the ocean or bay. Outflow can create strong currents, ripping at structures, pounding them with debris, and eroding beaches and coastal structures.

Peak Ground Acceleration (PGA)
A measure of the strength of ground movements in a seismic event. This measures the rate in change of motion relative to the established rate of acceleration due to gravity (g) (9.8 meters/second/second).

Planimetric
Describes a map in which the information on the map is in true geographic relationship (*i.e.*, it is "to scale") with measurable horizontal distances.

Planning
The act or process of making or carrying out plans; specifically, the establishment of goals, policies, and procedures for a social or economic unit.

Planning Committee/Team
The core group of **stakeholders** who will see the hazard mitigation planning process through by setting the plan schedule, organizing the work teams, monitoring progress, and coordinating the review and adoption of the various sections of the plan. This committee should include representatives from the following groups: neighborhood groups and other non-profit organizations; state, regional, and local government representatives; businesses and development organizations; elected officials; Federal agency representatives; and academic institutions. See also **Stakeholder**. (Please refer to the FEMA how-to guide, "Getting Started," Chapter 2 for more information on this topic.)

Preparedness
A condition in which a **Community** is making or has made plans and preparations to strengthen the capability of that community to reduce the impact of, respond to, and recover from a disaster.

Probability
A statistical measure of the likelihood that a hazard event will occur.

Q3 Flood Data
Also known as "Digital Quality Level 3" flood data, these data are a digital representation of certain features on the paper **Flood Insurance Rate Maps**. At present, this data is available on CD-ROM from FEMA for 1,200 counties nationwide. This data is similar to the FIRM data, but does not include hydrographic features (streams, rivers, lakes, and shorelines); base flood elevations; cross-section lines; roads, road names, or address ranges; and locations, elevations, and descriptions of benchmarks and elevation reference marks.

Reconstruction
The long-term process following a disaster of rebuilding a community's destroyed housing stock, commercial and industrial buildings, public facilities, and other structures.

Recovery
The actions taken by an individual or community after a catastrophic event to restore order and lifelines in a community. These may be started during but extend beyond the emergency period to that point when the vast majority of such services, including electricity, water, communications, and public transportation have resumed normal operations. **Short-term recovery** does not include the reconstruction of the built environment (although reconstruction may commence during this period) but primarily focuses on restoring public and utility services. **Long-term recovery** (see **Reconstruction**) is the process of returning the community, to the extent possible, to the conditions that existed prior to the event, preferably while taking advantage of opportunities to mitigate against future disasters.

Recurrence Interval
The time between hazard events of a similar size in a given location. This interval is based on the probability that the given event will be equaled or exceeded in any given year. See also **1% Flood** and **0.2% Flood**.

Regulatory Floodway
As defined under the NFIP, this is the stream channel and that portion of the adjacent floodplain that must remain open to permit passage of the base flood without raising the water surface elevation by more than one foot.

Repetitive Flood Loss (property)
Any property that has had two or more claims greater than $1,000 paid by the NFIP within any 10-year period since 1978.

Replacement Value
As assessed during an asset inventory, this is the current cost of returning a physical asset to its pre-damaged condition. This usually is expressed in terms of cost per square foot and reflects the present-day cost of labor and materials to construct a building of a particular size, type, and quality. See also **Content Value**.

Resource Inventory
An analysis of the resources a community can call upon in the event of an emergency.

Response
Those actions taken during a hazard event to provide emergency assistance by addressing immediate life and safety needs, minimize further damage to properties, and speed **Recovery** immediately following a disaster.

Revetments
Rock or other hardened materials (*e.g.*, concrete blocks) placed atop riverbanks , along shorelines, and on slopes to reduce erosion, temper wave action, and improve stream flow.

Richter Magnitude Scale
A numerical scale of earthquake magnitude devised by seismologist C.F. Richter in 1935. This is the common scale with which most of the public is familiar. See also **Modified Mercalli Scale** and **Peak Ground Acceleration**.

Riprap
See **Revetments**.

Risk
The estimated probability that damage will occur to life, property, or the environment if a hazard event occurs. Risk often is expressed in relative terms such as a high, moderate, or low likelihood of sustaining damage as the result of a hazard event. It also can be expressed in terms of potential monetary losses associated with the intensity of a hazard event.

Risk Assessment
A process or method for evaluating risk associated with a specific hazard and defined in terms of hazard probability and frequency of occurrence, magnitude and severity (**Intensity**), exposure, and consequences. See also **Risk**, **Vulnerability**, **Exposure**, and **Probability**.

Riverine
Of or produced by a river.

Rock Slide
A type of **Landslide** characterized by the sudden and rapid slide of bedrock along planes of weakness.

Saffir/Simpson Scale
A system for evaluating the intensity and magnitude of hurricanes, based on wind speed, storm surge, and central pressure. This scale ranges from the weakest (Category 1) to the most powerful (Category 5).

Scale
On a map, this is the proportion used in determining a dimensional relationship. It is the ratio of the distance between two points on a map and the actual distance between those two points on the earth's surface. For example, a scale of 1:24,000 means that every one inch on the map is equal to 24,000 inches on the earth's surface.

Scarp
A steep slope.

Scour
The removal of soil or fill material by the flow of floodwaters. The term frequently is used to describe storm-induced, localized conical erosion around pilings and other foundation supports where the **Obstruction** of flow increases turbulence.

Seismicity
Describes the likelihood of an area being subject to earthquakes.

Slump
A type of **Landslide** characterized by the downward and outward movement of rock or unconsolidated material as unit or as series of units. Also called slope failure.

Special Flood Hazard Area (SFHA)
As defined under the NFIP, this is land in the floodplain within a community subject to a 1 percent or greater chance of flooding in any given year.

Stafford Act
The Robert T. Stafford Disaster Relief and Emergency Assistance Act (P.L. 100-707), signed into law November 23, 1988, amending the Disaster Relief Act of 1974 (P.L. 93-288). The Stafford Act is the statutory authority for most federal disaster response activities, especially as they pertain to FEMA and its programs.

Stakeholder
Individuals or groups that will be affected in any way by an action or policy. They include businesses, private or non-profit organizations, and citizens.

State Hazard Mitigation Officer (SHMO)
The representative of state government who is the primary point of contact with FEMA, other state and federal agencies, and local units of government in the planning and implementation of pre- and post-disaster mitigation programs and activities required under the **Stafford Act**.

Storm Surge
The rise in the water surface above normal water level on the open coast due to the action of wind stress and atmospheric pressure on the water surface. It is usually manifested as water that is pushed toward the shore by the force of the winds swirling around a storm. These large waves of water sweep across the shorelines where a storm makes landfall. The height of the storm surge will be greater the more intense a storm is. Storm surge areas can be mapped by the probability of storm surge occurrence using Sea, Lake, and Overland Surges from Hurricanes (SLOSH) modeling.

Storm Tide
A combination of a storm surge and the normal tide. For example, a 15-foot storm surge along with the normal 2-foot tide creates a storm tide of 17 feet.

Structure
See **Building**.

Structure Loss
Part of the Loss Estimation process, this value represents the structural dollar value loss as a result of damage from the hazard event. This value (for each affected structure) is equal to the **Replacement Value** of the structure multiplied by the percent damage experienced by the structure.

Substantial Damage
Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage.

Surface Faulting
The differential movement of two sides of a fracture; the location where the ground breaks apart. This is characterized by the length, width, and displacement along the fault zone.

Sustainability
The concept and practice in which decisions and actions made by the present generation do not reduce the options of future generations. These decisions and actions allow the present generation to pass on to the following generations a natural, economic, and social environment that will provide a continuing high quality of life.

Sustainable
Able to be continued or maintained at a particular level or intensity without depleting the supporting resource.

Sustainable Community

In addition to embracing the ideals of sustainability, a sustainable community also considers the following issues when planning for and with its citizens: environmental quality and quality of life; disaster resistance; economic vitality and a fair legacy for future generations; an understanding of and accounting for the impact of its actions and policies on adjacent jurisdictions as well as the greater surrounding region and beyond; and an emphasis on combining policies, programs, and design solutions that bring about multiple objectives and seek to address and integrate social and environmental concerns.

Technological Hazard

See "Hazard", above.

Tectonic Plate

Torsionally rigid, thin segments of the earth's lithosphere that may be assumed to move horizontally and adjoin other plates. It is the friction between plate boundaries that cause seismic activity. See also **Earthquake**.

Topographic

Describes a map that shows natural features and indicate the physical shape of the land using contour lines. These maps also may include human-made features.

Tornado

A violently rotating column of air extending from a thunderstorm to the ground.

Town

As defined by Title 15.2 Section 102 of the COV this is any existing town or an incorporated community within one or more counties that became a town before noon, July 1, 1971, as provided by law or that has within defined boundaries a population of 1,000 or more and that has become a town as provided by law.

Tropical Cyclone

A generic term for a cyclonic, low-pressure system over tropical or sub-tropical waters.

Tropical Depression

A tropical cyclone with maximum sustained winds of less than 39 mph.

Tropical Storm

A tropical cyclone with maximum sustained winds greater than 39 miles per hour and less than 74 miles per hour.

Tsunami

A great sea wave produced by submarine earth movement or volcanic eruption.

Urban Growth Boundary (UGB)

A politically defined boundary that defines the limits of an urban growth area in an attempt to concentrate growth within a designated area, typically an area where urbanization already is prevalent.

Urban Service Boundary (USB)
A politically defined boundary beyond which public utilities will not be extended. This boundary is determined and enacted by a locality in an attempt to temper and manage urban growth in sensitive and vulnerable areas by limiting the extension of city utilities into undeveloped areas.

Urban Wildfire
A fire moving from a wildland environment, consuming vegetation as fuel, to an urban environment where the fuel consists primarily of buildings and other structures.

Urban/Wildland Interface
A developed area occupying the boundary between an urban or settled area and a wildland characterized by vegetation that can serve as fuel for a forest fire.

Velocity
The speed of a moving object, usually measured in miles per hour, kilometers per hour, feet per second, or meters per second.

Vulnerability
The level or degree of exposure of human life and property to damage from natural or human-caused hazards.

Vulnerability Assessment
The analysis and determination of the overall vulnerability of the population and property in a specified area to possible injury and damage that may result from a hazard event of a given intensity. This assessment analyzes the impact of hazard events on both the existing and future population and built environment.

Wave Height
The height of a wave above the mean water surface level of a lake or ocean.

Wave Runup
The distance or height up to which a wave extends on a steep shoreline, as measured relative to a reference level such as the normal height of the sea.

Wildfire
An uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures.

Wildland Fire
A **Wildfire** in an area in which development is essentially nonexistent, except for roads, power lines, railroads, and other similar features.

Zone
A geographical area shown on a **Flood Insurance Rate Map (FIRM)** that reflects the severity or type of flooding in that area. Flood zones may be classified as A, AE, AO, AH, A99, AR, V, VE, B, C, D, or X. The characteristics of these zones are described on the FIRM.